

Comparisons of Job Characteristics

Focus Occupation: Chemical Technicians (19-4031)

Associated Occupation: Forensic Science Technicians (19-4092)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 57

Focus Occupation: Chemical Technicians (19-4031)

Associated Occupation: Forensic Science Technicians (19-4092)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Chemistry	4.8	13.1	18.6	>>	Current knowledge level is likely more than sufficient
Clerical	7.3	12.9	7.0	<<	Extensive education and/or training may be required
Law and Government	5.9	12.9	1.8	<<	Extensive education and/or training may be required
Public Safety and Security	6.9	12.0	5.8	<<	Extensive education and/or training may be required
Biology	3.7	9.3	6.8	<<	Extensive education and/or training may be required
Medicine and Dentistry	3.7	6.0	2.2	<<	Extensive education and/or training may be required
Geography	3.9	5.7	1.7	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 71

Focus Occupation: Chemical Technicians (19-4031)

Associated Occupation: Forensic Science Technicians (19-4092)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Critical Thinking	10.8	14.1	11.8	<	A higher skill level may be required
Speaking	10.8	13.6	9.8	<<	Extensive development of skills in this area may be required
Writing	9.2	13.5	11.5	<	A higher skill level may be required

Complex Problem Solving	9.1	12.6	9.3	<<	Extensive development of skills in this area may be required
Active Learning	8.7	11.2	9.0	<	A higher skill level may be required
Instructing	7.8	10.6	7.9	<<	Extensive development of skills in this area may be required
Science	4.5	9.8	13.8	>>	Skill level is likely more than sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities

Similarity of Focus Occupation to Associated Occupation: 86

Focus Occupation: Chemical Technicians (19-4031)

Associated Occupation: Forensic Science Technicians (19-4092)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Flexibility of Closure	7.8	16.0	8.4	<<	Extensive improvement in abilities may be required
Deductive Reasoning	10.6	15.1	12.8	<	Some improvement in abilities may be required
Near Vision	11.1	15.1	12.9	<	Some improvement in abilities may be required
Problem Sensitivity	11.1	14.4	11.4	<	Some improvement in abilities may be required
Inductive Reasoning	10.2	14.3	12.8	<	Some improvement in abilities may be required
Information Ordering	9.9	12.9	12.0	0	Current ability level may be sufficient
Far Vision	7.8	12.5	7.5	<<	Extensive improvement in abilities may be required
Category Flexibility	9.0	12.0	11.6	0	Current ability level may be sufficient
Speed of Closure	5.9	11.2	6.7	<<	Extensive improvement in abilities may be required
Perceptual Speed	7.4	11.1	7.9	<<	Extensive improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 87

Focus Occupation: Chemical Technicians (19-4031)

Associated Occupation: Forensic Science Technicians (19-4092)

Work Activities	Exclusivity of Activity
Adhere to safety procedures	12
Analyze chemical experimental, test, or analysis data or findings	69
Analyze scientific research data or investigative findings	27
Collect scientific or technical data	30

Communicate technical information	4
Compile numerical or statistical data	38
Conduct analyses or tests of organic compounds	71
Conduct analyses to determine physical properties of materials	80
Conduct laboratory research or experiments	57
Conduct standardized qualitative laboratory analyses	62
Conduct standardized quantitative laboratory analyses	62
Create mathematical or statistical diagrams or charts	43
Develop or maintain databases	30
Develop tables depicting data	33
Examine biological or other material specimens under microscope	73
Explain complex mathematical information	30
Maintain records, reports, or files	5
Prepare reports	8
Prepare sample for laboratory testing, analysis, or microscopy	74
Prepare technical reports or related documentation	22
Record test results, test procedures, or inspection data	48
Set up or calibrate laboratory equipment	78
Understand properties of gases or liquids	78
Use chemical testing or analysis procedures	54
Use computers to enter, access or retrieve data	3
Use hazardous materials information	35
Use knowledge of investigation techniques	16
Use knowledge of metric system	39
Use laboratory equipment	60
Use mathematical or statistical methods to identify or analyze problems	30
Use microscope	71
Use oral or written communication techniques	1
Use physical science research techniques	68
Use precision measuring tools or equipment	17
Use quantitative research methods	35
Use relational database software	26
Use scientific research methodology	21
Use spreadsheet software	18
Use word processing or desktop publishing software	17
Work as a team member	36

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 53

Focus Occupation: Chemical Technicians (19-4031)
Associated Occupation: Forensic Science Technicians (19-4092)

Tools and Technologies	Exclusivity
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Computers	1
Content authoring and editing software	1
Data management and query software	1
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Laboratory centrifuges and accessories	13
Laboratory heating and drying equipment	13
Laboratory implements	27
Laboratory mixing and stirring and shaking equipment and supplies	19
Laboratory washing and cleaning equipment	35
Lamps	19
Light and wave generating and measuring equipment	4
Liquid and solid and elemental analyzers	19
Respiratory protection	6
Safety apparel	4
Spectroscopic equipment	10
Temperature and heat measuring instruments	6
Viewing and observing instruments and accessories	4
Vision protection and accessories	3
Weight measuring instruments	7

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.